"The bands in this experiment were made of carpet six inches wide, and long enough to go twice around the tree, making a very abundant covert for the worms. As might have been anticipated, in this case the greater part of the worms in the upper band were found in its upper half, indicating that the worms had reached it by descending from above; and on the other hand, the greater part of the worms in the lower band were in its lower half, showing that they had come up from the ground. We say the greater part, but not all, implying that some worms in each case had passed over one band and gone on to the next."

The above tables furnish data for many interesting and practical deductions.

"First, as respects the question now under consideration, namely, what proportion of the worms leave the apples before they fall from the tree; if we add together all the worms found in the highest and the lowest bands respectively, and divide those in the middle or upper trunk bands equally between the other two, we shall have 436 in the lower bands, and 290 in the upper, implying at first view that much the larger number came up from the ground. But there are several circumstances in these experiments which must be taken into account, and which will somewhat modify this conclusion. First, many of the limbs have no bands upon them, and the worms from these may be presumed to have found covert chiefly in the upper bands on the trunk. Second, two of the trees experimented upon were large rough trees, and a part of the worms undoubtedly spun up under the scales of bark on the limbs above the bands. And thirdly, we do not know what proportion of the worms may have let themselves down to the ground by threads, and thus found shelter under the lowest bands. Taking these circumstances into account, we shall perhaps arrive at au approximation sufficiently accurate for practical purposes, if we divide the whole number of worms equally between the upper and lower bands, from which we infer that about half the worms crawl down the tree, and the other half reach the ground either in the apples or by threads. We must infer from this as far as one series of experiments enables us to judge, that the gathering of windfall apples, either by ourselves or by the aid of domestic animals, enables us to destroy less than half of the codling worms.

"The animals used for this purpose are hogs and sheep, the latter are more cleanly, and

equally effective, but they are liable to damage young trees by gnawing the bark.'

4th. Entrapping the worms under bands, &c. - Our own experience in a series of experiments. very similar to those above detailed, was much the same, excepting in the number of larvae captured, which from five trees did not, at any one time, exceed 47, the distribution in the upper and lower bandages being nearly in the same proportion as that given by Dr. Le Baron. This method of entrapping the worms under bands is without doubt the most effective remedy yet devised, and if it were generally and persistently followed would effect a large yearly saving in the crop of this valuable fruit. It is of great importance that united effort should be made in this case, as the evil is an increasing one, and the yearly loss now entailed something enormous. With us we have known the full-grown larva to be found under bandages as early as the 4th of July, hence we think that their application should not be delayed later than the 1st. Indeed it would be wise to apply them a few days earlier than this. By referring to the first and second captures in Dr. Le Baron's first experiment, it will be observed that quite a number of empty pupa cases were found, 54 in all, showing that sufficient time had elapsed before examination to allow of the larvæ passing through the stage of chrysalis, and escaping as a perfect insect to continue its work of destruction. To prevent escapes of this sort we should recommend that the bandages be examined every ten days until the latter end of August After this, worms of the second broad only will be found, and since these remain in the larval state until the following spring, the bands subsequently might be examined at leisure.

As to the material to be used for bandaging we have found old sacking, (which can often be obtained at trifling cost), to answer a very good purpose, cut into strips from six to eight inches wide, and long enough to go two or three times around the tree, and tied in the middle with a piece of stout twine. Strips of old carpet or cloth where they can be obtained, would, of course, prove equally good. In the excellent report of the Michigan Pomological Society, for 1873, we find that much interest is being excited throughout that State in reference to the codling moth, and many practical discussions are reported on the best means of fighting it, all however, agreeing in recommending the use of bandages. One apple grower recommends a bandage of common brown paper tied around the tree with a string; another while recommending the paper thinks the string too much trouble, and advises the use of a tack to fasten the end of the bandage with. One advantage claimed for this material for bandaging is that birds

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127

83

220

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